

# Framingham State University

## Program Assessment Plan for Environment, Society & Sustainability Department 2022-2027

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### 1) PROGRAM MISSION STATEMENT

The mission of the Department of Environment, Society, and Sustainability is to provide students with an integrated learning experience encompassing the major social-environmental problems of our planet. The department offers a Bachelor of Arts (B.A.) degree with majors in Environmental Studies & Social Justice and Geospatial & Data Analysis. The department also offers a Bachelor of Science (B.S.) degree with a major in Environmental Sciences with concentrations in Environmental Science & Policy; Earth & Planetary Systems; or Earth & Planetary Systems with a secondary education minor. Also offered is a Non-degree program in Pre-Engineering that is designed to facilitate a successful transition of students into an Engineering major at other colleges.

Uniquely, we approach such problems-including the climate crisis, biodiversity loss, changes in land system use, and rising social inequality and conflict-through the natural and social sciences as well as considerations of justice and ethics. The interdisciplinary nature of the department offers students a strong foundation in the physical sciences; broad training in geospatial technologies; and environmental policy applications through experiential, collaborative, laboratory, field, capstone, and seminar learning opportunities. Furthermore, we offer students the ability to integrate physical and natural aspects of the world with the social, cultural, economic, and political aspects of the world to recognize and redress issues related to environmental racism and climate justice.

Program graduates will be positioned for professional employment in governmental agencies, private corporations, non-profit organizations, and consulting firms. Program graduates are also positioned for graduate work in fields such as earth science, conservation biology, resource management and environmental science, planning, engineering, law, and education. Through faculty trained in multiple disciplines, from urban planning to geology, from astronomy to geographical information systems, from physics and engineering to human cultural diversity and environmental justice, our programs offer a rich integrative experience to students that matches the transdisciplinary nature of the world's most challenging problems.

## 2) PROGRAM LEARNING OBJECTIVES (Draft PLOs as of May 2023)

1. Content Knowledge:
  - a. Environmental and Earth Science majors will demonstrate comprehensive knowledge of Earth's geosphere, biosphere, hydrosphere, cryosphere, and atmosphere by incorporating the principles of biology, ecology, physics, and chemistry that underlie environmental issues.
  - b. Environmental Studies and Social Justice majors will demonstrate comprehensive knowledge of urbanization, urban and regional planning, environmental and land use planning, the interplay of humans and the environment, and identify the role of the major environmental agencies, laws, and regulations.
  - c. Geospatial and Data Analysis majors will demonstrate comprehensive knowledge of geospatial technologies by employing Geographic Information Systems (GIS), global positioning systems (GPS), remote sensing, spatial analysis, and cartography.
2. Field & research methods: appropriately use a variety of tools and resources to independently integrate laboratory, field, and literature data to support a thesis.
3. Communication methods: communicate data, ideas, and interpretations (through written, oral, visual, and digital means).
4. Critical thinking: think critically about environmental, societal, and sustainability challenges at local, national, regional, and global spatial scales.
5. Ethics: evaluate the ethical issues at the intersection of society and the environment.

### 3) LEARNING OPPORTUNITIES

The curriculum maps for the department's programs are included here.

<b>Geospatial and Data Analysis Major</b>					
Courses (down) / Skills (across)					
<b>Required Department Core Courses</b>	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
ENVS 101 Introduction to Environmental Science and Policy	I		I	I	I
EASC 201 Principles of Earth System Science	I	R	R	R	R
GEOG 216 Introduction to Geographical Information Systems	R	R	R		
ENVS 272 Global Environmental Issues			E	E	E
EVSS 460 Thesis in Environment, Society, and Sustainability	A	A	A	A	A
<b>Required Major and Concentration Courses</b>					
GEOG 110 World Regional Geography	I		I	I	I
GEOG 111 The Digital Earth	I	I	I		I
GEOG 211 Cultural Geography			R	R	
GEOG 214 Spatial Analysis Using Geographic Information Systems	R	R	R		
GEOG 316 Advanced Geographic Information Systems	E	E	E		
GEOG 328 Introduction to Remote Sensing	E	E	E		
I - Introduced R - Reinforced E - Emphasized A - Assessed					

**Environmental Science Major**  
**Env. Science + Policy Conc.**  
 Courses (down) Skills (across)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
ENVS 101 Introduction to Environmental Science and Policy	I		I	I	I
EASC 201 Principles of Earth System Science	I	R	R	R	R
GEOG 216 Introduction to Geographical Information Systems	R	R	R		
ENVS 272 Global Environmental Issues			E	E	E
EVSS 460 Thesis in Environment, Society, and Sustainability	A	A	A	A	A
BIOL 130 Principles of Biology with Lab		I			
BIOL 248 Principles of Ecology with Lab		R			
BIOL 251 Vascular Plant Taxonomy with Lab		R			
CHEM 103 Introductory Chemistry with Lab		I			
ECON 102 Principles of Microeconomics					
ECON 333 Environmental Economics				R	
ENVS 202 Data Analysis for Scientists		E			
GEOL 208 Principles of Physical Geology with Lab	R	R			
GEOG 235 Environmental Law and Policy	R		R	R	R
GEOG 375 Sustainable Management of Natural Resources	E			R	R

<b>Environmental Science Major</b> <b>Earth &amp; Planetary Systems Conc.</b> Courses (down) Skills (across)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
ENVS 101 Introduction to Environmental Science and Policy	I		I	I	I
EASC 201 Principles of Earth System Science	I	R	R	R	R
GEOG 216 Introduction to Geographical Information Systems	R	R	R		
ENVS 272 Global Environmental Issues			E	E	E
EVSS 460 Thesis in Environment, Society, and Sustainability	A	A	A	A	A
ASTR 218 or 230 Principles of Solar System Astronomy or Stars and Galaxies					
BIOL 130 Principles of Biology with Lab		I			
CHEM 107 Principles of Chemistry with Lab		I			
CHEM 108 Principles of Chemistry and Quantitative Analysis with Lab		R			
EASC 208 Principles of Meteorology	R		R		
EASC 228 Principles of Oceanography	R		R		
ENVS 300 Environmental Field Methods with Lab	E	E			
GEOL 208 Principles of Physical Geology with Lab	R	R			
GEOL 233 Environmental Geology	E		E	R	R
MATH 180 Precalculus					
PHYS 201 Physics for Earth and Life Scientists with Lab		R		R	

<b>Environmental Studies and Social Justice Major</b> Courses (down) Skills (across)					
	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
<b>Required Department Core Courses</b>					
ENVS 101 Introduction to Environmental Science and Policy	I		I	I	I
EASC 201 Principles of Earth System Science	I	R	R	R	R
GEOG 216 Introduction to Geographical Information Systems	R	R	R		
ENVS 272 Global Environmental Issues			E	E	E
EVSS 460 Thesis in Environment, Society, and Sustainability	A	A	A	A	A
<b>Required Major and Concentration Courses</b>					
ENVS 246 Sustainability and Social Justice		R	R	R	E
GEOL 208/208L Principles of Physical Geology with Lab	R	R	R		
GEOG 110 World Regional Geography	I		I	I	I
GEOG 235 Environmental Law and Policy	R		R	R	R
GEOG 240 Community Land Use Policy	R		R	R	E
GEOG 260 Introduction to Urban Studies and Planning in the United States	I		R	R	R
GEOG 380 Making Places Sustainable	E		E	A	A

#### 4) ASSESSMENT METHODS AND TIMELINE

Indicate when and how program learning objectives will be assessed. Refer to the curriculum map to draft a student learning objective assessment timeline. It is recommended that you outline a 5-year plan for assessment in which you will assess all of your PLOs.

<b>Academic Years</b>	<b>Objectives(s)</b>	<b>Course(s)</b>	<b>Assessment Evidence (direct/indirect)</b>	<b>Assessment Method</b>	<b>Responsibility</b>
WHEN	WHICH Objectives(s) will you examine in each period (Use number)?	WHERE will you look for evidence of student learning (i.e., list course(s) that will generate evidence for each objective.	WHAT student work or other evidence will you examine in order to assess each objective?	HOW will you look at the evidence; what means will you use to analyze the evidence collected for each objective	WHO will oversee collecting, analyzing, reporting, results? List names or titles.
<b>Year 1 2022 - 2023</b>	PLO2 PLO4	ENVS 451 ENVS 101	Research paper proposal Exam responses/Policy Paper	Value Rubrics Value Rubrics	Department assessment committee
<b>Year 2 2023 - 2024</b>	PLO3	ENVS 452 (F23) ENVS 202 (Sp24) EASC 308 (Sp24) GEOG 375 (Sp24) ENVS 101 (Sp24)? EASC 118 (SP24)?	Research Paper + Presentation (both written and oral for ENVS 452) Oral presentation – ENVS 202	Value Rubrics	Department assessment committee
<b>Year 3 2024 - 2025</b>	PLO1	GEOL 233 GEOG 375 ENVS 300 GEOG 316 GEOG 328	Lab assignments Final project Final exams	Value Rubrics	Department assessment committee
<b>Year 4 2025 - 2026</b>	PLO5	ENVS 272 GEOG 235 ENVS 246 GEOG 380 (PLO 4, PLO 5)	Lab assignments Final paper? Short papers	Value Rubrics	Department assessment committee
<b>Year 5 2026 - 2027</b>	Synthesis and analysis of findings				

### **Program Size and Sampling Technique**

- a. State the number of students in the program or the number who graduate each year.  
The average number of students in the program is 80.
- b. Describe the sampling technique to be used  
Entire population

### **5) PLAN FOR ANALYZING RESULTS**

- List who is responsible for distributing results and who will receive results?  
Bentley (Assessment Coordinator) will distribute results to the Department of Environment, Society & Sustainability.
- State how and at which forums discussion of results will take place.  
Discussion of the results will take place at the Department of Environment, Society & Sustainability meetings.



6) **DISTRIBUTION.** The program will distribute or publish these items in the following ways:

<b>ITEM</b>	<b>Distribution Method</b>					<b>Other</b> (please describe, e.g. department meeting, advising session)
	<b>FSU Catalog</b> (provide section title)	<b>Website</b> (provide URL)	<b>Annual Reports</b>	<b>Brochures</b>	<b>Course Syllabi</b>	
Program Mission	Department of Environment, Society & Sustainability (pg. 299 in hardcopy catalog)	<a href="https://www.framingham.edu/academics/colleges/science-technology-engineering-and-mathematics/environment-society-sustainability/mission/">https://www.framingham.edu/academics/colleges/science-technology-engineering-and-mathematics/environment-society-sustainability/mission/</a>	Yes	Yes	No	Department meetings and bulletin boards
Program Learning Objectives	Department of Environment, Society & Sustainability (pg. 299 in hardcopy catalog)	<a href="https://www.framingham.edu/academics/colleges/science-technology-engineering-and-mathematics/environment-society-sustainability/mission/">https://www.framingham.edu/academics/colleges/science-technology-engineering-and-mathematics/environment-society-sustainability/mission/</a>  -Will need to be updated	Yes	Yes	No	Department meetings and bulletin boards
Learning Opportunities (Curriculum Map)			Yes	No	No	Department meetings
Assessment Plan			Yes	No	No	Department meetings

**Attach any rubrics or instrumentation that you plan to use for assessment of Program Learning Objectives**

<sup>1</sup> If you have questions or need assistance, please contact Dr. Mark Nicholas, Executive Director of Institutional Assessment at [mnicholas1@framingham.edu](mailto:mnicholas1@framingham.edu) or 508-626-4670

<sup>2</sup> Accredited programs can provide supplemental documents that indicate the answers to these questions as long as specific page references are provided in each cell of the tables in this form. When the answers are not accessible in that way, please cut and paste into your assessment plan.

*Credits: This Template was developed using ideas from templates developed at University of Rhode Island and University of Hawaii in Manoa.*